

REMARKS

Claims 1-7 are pending. Claims 1-7 have been amended. Reconsideration and allowance of the present application based on the following remarks are respectfully requested.

Claim Rejections – 35 U.S.C. § 112

Claims 1-7 were rejected under 35 U.S.C. § 112 for failing to set forth the subject matter which the Applicants regard as their invention.

The Examiner rejected claims 1-7 on the bases that the limitation “characterized in that the step of changing a primer annealing temperature and an extension time per cycles of constant period” is unclear. Applicants have clarified this limitation by amending claim 1 to require that the “primer annealing temperature and extension time are changed by a constant amount per constant number of cycles.” For instance, this limitation would be met by a PCR method wherein the PCR cycle includes a primer annealing step, initially at 45°, that increases by .5° (i.e., a “constant amount”) every 4 cycles (i.e., a “constant number of cycles”), and wherein the extension step, initially set to 10 seconds, increases by .5 seconds (i.e., a “constant amount”) every 1 cycle (i.e., a “constant number of cycles”). Claims 4 and 5 have been similarly amended.

The Examiner also rejected claim 6 on the basis that it is unclear whether Tm_max and Tm_min refers to the melting temperature of the primer or the template. Although Applicants believe that, based on the specification, Tm_max and Tm_min clearly refer to the melting temperature of the primer (see, e.g., pp. 5 and 6 of the Specification), Applicants have nevertheless amended claim 6 to make a such a meaning explicit.

Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

Claim Rejections under 35 U.S.C. § 102

Claims 1, 2, 4 and 5 were rejected under 35 U.S.C. § 102(b) as being anticipated by Khaled et al. (FEMS Microbiology Letters, 1997).

Applicants respectfully submit that the amended claim 1 as properly interpreted is patentable over Khaled. Khaled states that the annealing temperature was raised to 50°, but does not disclose in what manner the temperature is increased. Khaled certainly does not

disclose or teach changing the primer annealing temperature by a “constant amount per constant number of cycles” as required by claim 1.

Further, Khaled clearly does not disclose or teach changing the extension time, let alone changing the extension time by a “constant amount per constant number of cycles.” Khaled only discloses an extension time of a constant 60 seconds. Khaled does disclose a “final extension step” of 8 minutes, but such step is not the cyclical extension step to which claim 1 refers. The “extension time” of claim 1 refers to the extension time during the PCR cycles, and not the “final extension step” or, in the language of the current Specification, the “additional extension step. See, e.g. p. 11 of the Specification. In the PCR example disclosed by Khaled, the extension time remained at a constant 60 seconds.

Accordingly, Khaled fails to teach, or even suggest, a PCR method wherein the primer annealing temperature and extension time are changed by a constant amount per constant number of cycles. Claims 2, 4 and 5 are believed allowable for at least the same reasons as presented above with respect to claim 1 by virtue of their dependence from claim 1.

Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

Claim Rejections under 35 U.S.C. § 103

Claims 3 and 7 were rejected under 35 U.S.C. § 102 as being unpatentable over Khaled in view of Burckhardt (U.S. Patent No. 5,501,963).

Claims 3 and 7 are believed allowable for at least the same reasons as presented above with respect to claim 1 by virtue of their dependence from claim 1. Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

Conclusion

Therefore, all rejections having been addressed, it is respectfully submitted that the present application is in a condition for allowance and a Notice to that effect is earnestly solicited.

Should any issues remain unresolved, the Examiner is encouraged to contact the undersigned attorney for Applicants at the telephone number indicated below in order to expeditiously resolve any remaining issues.

Respectfully submitted,

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